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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/472,954	12/27/1999	Takao Kuwabara	Q56523	9412

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EXAMINER

SPEARS, ERIC J

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 11/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/472,954

Applicant(s)

KUWABARA, TAKAO

Examiner

Eric J Spears

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities: the specification appears to be a unedited direct computer translation of a Japanese application and thus contains many grammatical errors. An example of such an error is found on Page 2, lines 9-18. Appropriate correction is required to put the specification into proper English.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the method of Claim 1, the method recited in Claim 2, and the details of the solid-state imager as recited in Claims 5, 6, 7, and 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1-10 are objected to because of the following informalities: the claims appear to be a unedited direct computer translations of a Japanese application and thus contains many grammatical errors. An example of such an error is found on Claim 1, lines 5-9. Appropriate correction is required to put the claims into proper English.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1, it is unclear as to what constitutes "radiation". For examination purposes it will be interpreted as meaning electromagnetic radiation.

Regarding Claim 1, it is unclear what the term "a maximum value" is referring to. In light of the specification, the term will be interpreted as meaning equal to the largest of the pixel signals.

Regarding Claim 1, the phrase "pixel signals each representing a signal value of each pixel" renders the claim indefinite as this phrase implies that each pixel signal is representative of all of the pixels, which is contrary to what is understood from the

specification. For examination purposes the claim will be interpreted as the word "each" on line 4, reads --a- -.

Claim 1, line 9 recites the limitation "the signal value". There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 2, it is unclear as to what constitutes "radiation". For examination purposes it will be interpreted as meaning electromagnetic radiation.

Regarding Claim 2, the phrase "pixel signals each representing a signal value of each pixel" renders the claim indefinite as this phrase implies that each pixel signal is representative of all of the pixels, which is contrary to what is understood from the specification. For examination purposes the claim will be interpreted as the word "each" on line 4, reads --a- -.

Regarding Claim 3, it is unclear as to what constitutes "radiation". For examination purposes it will be interpreted as meaning electromagnetic radiation.

Regarding Claim 3, the phrase "pixel signals each representing a signal value of each pixel" renders the claim indefinite as this phrase implies that each pixel signal is representative of all of the pixels, which is contrary to what is understood from the specification. For examination purposes the claim will be interpreted as the word "each" on line 4, reads --a- -.

Regarding Claim 3, it is unclear what the term "a maximum value" is referring to. In light of the specification, the term will be interpreted as meaning equal to the largest of the pixel signals.

Regarding Claim 3, line 11 recites the limitation "the signal value". There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 4, it is unclear as to what constitutes "radiation". For examination purposes it will be interpreted as meaning electromagnetic radiation.

Regarding Claim 4, line 11 recites the limitation "the signal value". There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 4, the phrase "pixel signals each representing a signal value of each pixel" renders the claim indefinite as this phrase implies that each pixel signal is representative of all of the pixels, which is contrary to what is understood from the specification. For examination purposes the claim will be interpreted as the word "each" on line 4, reads --a- -.

Regarding Claim 9, the phrase "pixel signals each representing a signal value of each pixel" renders the claim indefinite as this phrase implies that each pixel signal is representative of all of the pixels, which is contrary to what is understood from the specification. For examination purposes the claim will be interpreted as the word "each" on line 4, reads --a- -.

Regarding Claim 9, it is unclear what the term "a maximum value" is referring to. In light of the specification, the term will be interpreted as meaning equal to the largest of the pixel signals.

Regarding Claim 10, the phrase "pixel signals each representing a signal value of each pixel" renders the claim indefinite as this phrase implies that each pixel signal is representative of all of the pixels, which is contrary to what is understood from the

specification. For examination purposes the claim will be interpreted as the word "each" on line 4, reads --a- -.

Claims not specifically mentioned are indefinite due to their dependence from an indefinite base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (5,289,286).

Regarding Claim 1, Nakamura teaches a method by which pixel signal outputs from a solid-state imaging device are corrected such that they equal a reference value (See abstract; Col. 6, lines 1-200). Nakamura does not teach the precise reference value in relation to the uncorrected pixel signal. However, the exact choice of reference value would have been obvious to one of ordinary skill in the art as an obvious design choice, since all pixels will be equal after correction, in order to allow for easier absolute signal level adjustment or amplification. Nakamura does not teach the intensity of the uniform light used in the correction. However, the precise intensity would have been obvious to one of ordinary skill in the art, in order to calibrate the pixels at any arbitrary light level.

Regarding Claim 2, Nakamura teaches a method by which pixel signal outputs from a solid-state imaging device are corrected such that they equal a reference value (See abstract; Col. 6, lines 1-200). Nakamura does not teach the precise reference value in relation to the uncorrected pixel signal. However, the exact choice of reference value would have been obvious to one of ordinary skill in the art as an obvious design choice, since all pixels will be equal after correction, in order to allow for easier absolute signal level adjustment or amplification. Nakamura does not teach the intensity of the uniform light used in the correction. However, the precise intensity would have been obvious to one of ordinary skill in the art, in order to calibrate the pixels at any arbitrary light level.

Regarding Claim 3, Nakamura teaches a signal correction device (Fig. 11) by which pixel signal outputs from a solid-state imaging device 112, which is irradiated by light 110 are corrected such that they equal a reference value (See abstract; Col. 6, lines 1-200). Nakamura does not teach the precise reference value in relation to the uncorrected pixel signal. However, the exact choice of reference value would have been obvious to one of ordinary skill in the art as an obvious design choice, since all pixels will be equal after correction, in order to allow for easier absolute signal level adjustment or amplification. Nakamura does not teach the intensity (i.e. at saturation level) of the uniform light used in the correction. However, the precise intensity would have been obvious to one of ordinary skill in the art, in order to calibrate the pixels at any arbitrary light level.

Regarding Claim 4, Nakamura teaches a signal correction device (Fig. 11) by which pixel signal outputs from a solid-state imaging device 112, which is irradiated by light 110 are corrected such that they equal a reference value (See abstract; Col. 6, lines 1-200). Nakamura does not teach the precise reference value in relation to the uncorrected pixel signal. However, the exact choice of reference value would have been obvious to one of ordinary skill in the art as an obvious design choice, since all pixels will be equal after correction, in order to allow for easier absolute signal level adjustment or amplification. Nakamura does not teach the intensity (i.e. at saturation level) of the uniform light used in the correction. However, the precise intensity would have been obvious to one of ordinary skill in the art, in order to calibrate the pixels at any arbitrary light level.

Regarding Claim 9, Nakamura teaches a signal correction device (Fig. 11) by which pixel signal outputs from a solid-state imaging device 112, which is irradiated by light 110 are corrected such that they equal a reference value (See abstract; Col. 6, lines 1-200). Nakamura does not teach the precise reference value in relation to the uncorrected pixel signal. However, the exact choice of reference value would have been obvious to one of ordinary skill in the art as an obvious design choice, since all pixels will be equal after correction, in order to allow for easier absolute signal level adjustment or amplification. Nakamura does not teach the intensity (i.e. at saturation level) of the uniform light used in the correction. However, the precise intensity would have been obvious to one of ordinary skill in the art, in order to calibrate the pixels at any arbitrary light level.

Regarding Claim 10, Nakamura teaches a signal correction device (Fig. 11) by which pixel signal outputs from a solid-state imaging device 112, which is irradiated by light 110 are corrected such that they equal a reference value (See abstract; Col. 6, lines 1-200). Nakamura does not teach the precise reference value in relation to the uncorrected pixel signal. However, the exact choice of reference value would have been obvious to one of ordinary skill in the art as an obvious design choice, since all pixels will be equal after correction, in order to allow for easier absolute signal level adjustment or amplification. Nakamura does not teach the intensity (i.e. at saturation level) of the uniform light used in the correction. However, the precise intensity would have been obvious to one of ordinary skill in the art, in order to calibrate the pixels at any arbitrary light level.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (5,289,286) in view of Applicant's Admitted Prior Art (AAPA) page 10, line 15 through Page 12, line 3.

Regarding claims 5-8, the modified device of Nakamura does not teach the recited specifics of the solid-state image sensor. However, the AAPA teaches that sensors with the recited structure have been disclosed (i.e. are well known in the art) (See specification page 10, line 15 through Page 12, line 3). It would have been obvious to one of ordinary skill in the art to use the modified correction devices of Nakamura with a known solid-state image sensor, in order to provide added functionality to the image sensor.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Compton (5,455,622) teaches a signal processing device.

Maeshima (5,038,225) teaches a signal processing device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Spears whose telephone number is (703) 306-0033. The examiner can normally be reached on Monday-Friday from 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (703) 308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

EJS
10/08/03


Que T. Le
Primary Examiner